3.12 POPULATION, HOUSING, AND ECONOMICS

The study area for evaluation of impacts to employment, income, property values, and local government revenues is defined as Kittitas County. In addition to the government and other sources cited, this analysis draws upon a study titled "Economic Impacts of Wind Power in Kittitas County", prepared for the Phoenix Economic Development Group by ECONorthwest in November 2002 (Exhibit 20). That report addressed two other prospective wind energy projects in Kittitas County similar in size to the Wild Horse Project; thus, the results from that study were adjusted to apply to this Project only. Throughout this section that study is referred to as the "Phoenix Study".

3.12.1 Existing Conditions

The following sections are intended to present relevant information regarding the existing population, housing, employment, income, and fiscal and tax conditions and trends in Kittitas County, Washington where the Project will be located. This is the area that is anticipated to be impacted by the Project.

3.12.1.1 Population

Population estimates for Kittitas County and Washington State are presented in Table 3.12.1-1. In 2002, the population of Kittitas County was 34,800. Since 1990, the County population has increased at an annual rate of 2.2 percent. During the same period, the State's population increased at an annual rate of 1.8 percent.

The State of Washington's Office of Financial Management (OFM) currently projects that County population will continue to grow through the year 2020; however, the rate of growth is projected to slow to approximately 1.0 percent annually. During the same period, the State's population is forecast to grow at an annual rate of about 1.2 percent.

Table 3.12.1-1: Kittitas County and Washington State Population

Area	1990	2002	Average Annual Growth, 1990-2002	2020 Forecast	Forecast Average Annual Growth, 2002-2020
Kittitas County	26,725	34,800	2.22%	41,776	1.02%
Washington State	4,866,663	6,041,700	1.82%	7,545,269	1.24%

Source: Washington State Office of Financial Management. 2003.

As shown in Table 3.12.1-2, nearly 92 percent of the County's population is Caucasian. The State's population is 82 percent Caucasian. The study area's population has a lower percentage of persons of Hispanic origin than that of the State. Approximately 5.0

percent of the County's residents are of Hispanic origin, compared to approximately 7.5 percent for the State.

Table 3.12.1-2: Kittitas County Demographic Breakdown of Population by Race						
Area	**White Persons**	**African-American**	**American Indian, Eskimo, or Aleutian**	**Asian or Pacific Islander**	**Other Race**	**Two or More Races**
Kittitas County	91.8%	0.7%	0.9%	2.3%	2.3%	2.0%
Washington State	81.8%	3.2%	1.6%	5.9%	3.9%	3.6%

Source: U.S. Bureau of the Census. 2002.

3.12.1.2 Housing

Table 3.12.1-3 displays the estimated number of housing units for Kittitas County and for the State of Washington. From 1990 to 2000, housing in the County grew at an average annual rate that was slightly greater than that of the State. Kittitas County's average annual growth rate was 2.2 percent, and the number of housing units increased from 13,215 in 1990 to an estimated 16,475 in 2000.

*Table 3.12.1-3: **Housing Units in Kittitas County and Washington State***					
	Housing Units		**% Average Annual Growth**	**Number of Vacant Units, 2000**	
Location	1990	2000	1990-2000	Total Vacant Units	Seasonal, Recreational, or Occasional Use
Kittitas County	13,215	16,475	2.2%	3,093	1,791
State of Washington	2,032,378	2,451,075	1.9%	179,677	55,832

Source: U.S. Census Bureau, 2002.

According to the 2000 Census, Kittitas County has 3,093 vacant housing units. Of the total vacant units, 1,791 were classified as seasonal, recreational, or occasional use. The occasional use units represent approximately 10.9 percent of the total units in Kittitas County. These units are generally lake or hunting cabins, quarters for seasonal workers, or time-share units. Nearly 56,000 of the state's total housing units, or 2.7 percent, were designated as seasonal, recreational, or occasional use units. The higher percentage of occasional use units in Kittitas County is attributed to the recreational areas located in the Cascades and other areas of the county. The median home value for a 3 bedroom home in Ellensburg is $135,000 and for the surrounding area is $175,000 (Ellensburg Chamber of Commerce, 2003.)

Of the total units available for rent in Kittitas County, the U.S. Census reported a vacancy rate of 6.8 percent. This vacancy rate is consistent with the vacancy rate reported by the Washington Center for Real Estate Research, which reported an apartment vacancy rate range of as high as 7.0 percent in September 2001 to a low of 3.9 percent in March of 2002. The higher vacancy rate experienced in September could possibly be explained by the fact that Central Washington University's academic year generally begins at the end of September. By comparison, the U.S. Census Bureau reported that the state had a rental vacancy rate of 5.8 percent. The median gross monthly rent for a 3 bedroom home in Ellensburg is $950 (Ellensburg Chamber of Commerce, 2003.)

The estimated number of persons per household in Kittitas County was 2.3 in 2000, which is less than the state's average of approximately 2.5 persons per household.

3.12.1.3 Employment

The top 5 major or key employers in Kittitas County include Central Washington University with a labor force of 1,330 employees, Ellensburg School District with 364 employees, Kittitas Valley Community Hospital with 276 employees, Kittitas County with 250 employees, and Fred Meyer with 200 employees (Phoenix Economic Development Group, 2003.)

Table 3.12.1-4 displays average employment by industry for Kittitas County and the state. In 2001, an estimated 11,903 people were employed in Kittitas County. Employment in Kittitas County is concentrated in the government, trade, and service sectors. The government sector (including local, state and federal employees) accounts for approximately 31 percent of total employment in the study area, while trade (including wholesale and retail) and services account for 29 and 18 percent, respectively.

Approximately two percent of employees in Kittitas County are not placed in a particular industry. The "not elsewhere classified" designation is used for confidentiality reasons if fewer than three firms are displayed in a particular sector, or any one firm has 80 percent or more of the employment at any level of detail in a sector.

Table 3.12.1-4: Kittitas County and Washington State Employment by Industry, 2001

	Kittitas County		**State of Washington**	
Industry	**Employment**	**Percent of Total**	**Employment**	**Percent of Total**
Agricultural, Forestry and Fishing	722	6.1%	90,373	3.4%
Construction and Mining	444	3.7%	147,008	5.5%
Manufacturing	676	5.7%	333,317	12.4%
TCU	425	3.6%	140,291	5.2%
Trade	3,472	2902%	616,986	22.9%
FIRES	2,126	17.9%	881,092	32.8%
Government	3,717	31.2%	480,276	17.9%

Not Elsewhere Classified	321	2.7%	23	0.0%
Total	**11,903**	**100.0%**	**2,689,366**	**100.0%**

Source: State of Washington Employment Security Department. 2003.
Notes:
TCU = Transportation, communication, and utilities
Trade = wholesale and retail
FIRES = Finance, insurance, real estate, and services

Recent unemployment rate trends for Kittitas County and Washington State are shown in Table 3.12.1-5. In 1997, the average unemployment rate for Kittitas County exceeded the state's rate by over one percentage point, 6.0 percent versus 4.8 percent. By 1999, strong economic growth had resulted in decreases in the unemployment rates for both the county and state to 5.6 percent and 4.7 percent, respectively. With the recent recession, unemployment has risen in both the county and state. The 2002 unemployment rate was 6.1 percent in Kittitas County and 7.1 percent in Washington State.

Table 3.12.1-5: Unemployment Rate Trends in Kittitas County and Washington State, 1996-2001

Area	1997	1998	1999	2000	2001	2002
Kittitas County	6.0%	6.0%	5.6%	5.8%	6.5%	6.1%
Washington State	4.8%	4.8%	4.7%	5.2%	6.4%	7.1%

Source: State of Washington Employment Security Department. 2003. Note: 2002 data are averages for year-to-date as of November, 2002.

3.12.1.4 Income and Local Government Revenues

Income

In 2001, the per capita income of Kittitas County residents of $21,728 was about 68 percent of the state average of $31,976 (Table 3.12.1-6). From 1998-2001, the county's per capita income grew at an annual rate of 2.4 percent. Over the same time period, the state's per capita income grew at an annual rate of 3.1 percent.

According to the 2000 U.S. Census, the poverty rate for Kittitas County in 1999 was approximately 19.6 percent, which exceeded the state average of 10.6 percent.

Table 3.12.1-6: Kittitas County Per Capita Income (1998-2001)

Area	1998	1999	2000	2001	% Average Annual increase (1998-2001)	% of State Total (2001)
Kittitas County	19,738	20,164	21,196	21,728	2.4%	68.0%

Table 3.12.1-6: Kittitas County Per Capita Income (1998-2001)						
Area	**1998**	**1999**	**2000**	**2001**	**% Average Annual increase (1998-2001)**	**% of State Total (2001)**
State of Washington	28,285	29,819	31,230	31,976	3.1%	

Source: Bureau of Economic Analysis. 2003.

According to the Washington State Office of Financial Management, the median household income in 2002 was $35,278 and is projected to be $35,924 in 2003.

Sales and Other Tax Revenue

According to the Washington State Department of Revenue, Kittitas County had an assessed value of approximately $2.4 billion in 2002. The 2002 average consolidated tax per thousand dollars of assessed value for the County was about $10.75. Revenues from property taxes are used to fund Kittitas County government, local school districts, local fire departments, libraries, and emergency medical services. These property tax revenues are also a major source of revenue for the local governments. Incorporated into the consolidated tax levy are local levies collected by the County Assessor and returned to the local jurisdictions as general fund revenues.

Recent trends in taxable retail sales in Kittitas County and Washington State are compared in Table 3.12.1-8. In 2002, retail sales in Kittitas County totaled approximately $412 million. From 1999 to 2002, retail sales in Kittitas County increased at an average annual rate of 2.9 percent. Over the same period, sales statewide increased at an annual rate of 1.6 percent. Both Kittitas County and the state experienced a decline in taxable retail sales from 2001, then an increase in 2002. The brief decline in retail sales probably resulted from the overall slowdown in the regional and national economies.

Table 3.12.1-8: Kittitas County and Washington State Taxable Retail Sales ($000s)					
Area	**1999**	**2000**	**2001**	**2002**	**Avg. Annual % Change 1999-2002**
Kittitas County	367,900	392,536	387,724	411,775	2.9%
Washington State	79,683,553	84,747,510	84,356,940	84,894,588	1.6%

Source: Washington State Department of Revenue. 2003.

General Fund Revenues

In 2003, the Kittitas County general fund had revenues of about $15.5 million. As shown in Table 3.12.1-9, approximately 38 percent of the revenue is expected to come from taxes. Other sources of revenue include licenses and permits, fines and forfeits, and intergovernmental transfers. Real and personal property taxes are forecast to be the largest contributors to revenues. Property taxes, which account for about 22 percent of total revenues, generated about $3.4 million in revenues. Sales and use taxes are expected

to total approximately $2 million in 2003, providing approximately 13 percent of total revenues for the general fund (Kittitas County Auditor, 2003 General Fund Budget).

Table 3.12.1-9: Kittitas County General Fund, Total Resources (2003 Budget)		
Resources	**2003**	**Percent of Total Resources**
Real and Personal Property Taxes	$3,359,482	21.6%
Sales and Use Tax	$2,046,000	13.2%
Timber Harvest Tax	$150,000	1.0%
Excise Tax	$38,000	0.2%
Penalties on Taxes	$351,600	2.3%
Reserves and Carryover	$2,788,249	17.9%
Interfund Revenues	$233,909	1.5%
Misc. Revenue	$819,807	5.3%
Fines & Forfeitures	$1,483,350	9.5%
Charges for Services	$1,459,335	9.4%
Intergovernmental Revenues	$2,120,479	13.6%
Licenses and Permits	$699,200	4.5%
Total Resources	$15,549,411	100.0%

Source: Kittitas County Auditor, 2003 General Fund Budget

3.12.2 Impacts of the Proposed Action

3.12.2.1 Construction

Population and Housing

During major construction projects, there is always a chance that an influx of temporary workers requiring overnight accommodations will outstrip the supply of temporary housing. During construction, the Project would require up to 160 workers during a four-month period when construction activity is at its peak, and up to 90 workers for a couple of months on each end of the peak. A more detailed discussion of the anticipated construction workforce is provided in Section 2.2.6, 'Project Construction Schedule and Workforce.' Based upon the Applicant's experience with building wind power projects in other regions and recent examples from other wind power projects in the region (e.g. Stateline Wind Energy Center in Walla Walla County), up to half the construction workforce is expected to be from the local area. Due to the relatively short length of the construction period for any individual trade, most construction workers from outside the area are expected to commute daily to the site from the Yakima or Seattle areas, and those that do not are expected to reside locally only on a temporary basis and not to relocate their families. Therefore, many of these workers would not require overnight lodging.

For those workers that would require overnight lodging, the results of a telephone survey conducted by the Applicant of hotel, motel, RV Park, and campgrounds in Kittitas County indicates that there are 1,150 rooms or sites available in the county. The results

indicate further that during the peak summer season, there are typically about 240 rooms or sites vacant at any one time. During the non-summer months, vacancy rates are much higher and it is estimated that there are usually around 760 rooms or sites vacant at any one time. As discussed above, there are also more than 1,000 vacant, non-seasonal housing units in Kittitas County. There are also many overnight lodging opportunities in the greater Yakima area, which had a population of 224,500 in 2000, and are within a one-hour drive of the Project. Thus, there appears to be an adequate supply of temporary housing available to accommodate non-local workers.

Employment and Income

Construction of the Project would result in increased employment and spending in Kittitas County. As mentioned above, the estimate of the extent of those impacts are based on the analysis included in the Phoenix Study, adjusted to apply to this Project. The extent of the impacts was estimated in the Phoenix Study using an input-output (I-O) model of Kittitas County. Input-output analysis is a commonly used technique that examines the relationships within a local economy between businesses and between businesses and their customers. I-O analysis includes a model of transactions in the local economy that allows an analyst to track how a change in final demand ripples through the economy in the form of direct, indirect, and induced spending.

In the I-O framework, a project or action that results in new spending for final demand, or a reduction in existing spending, is called a direct effect. The businesses that make the final sales must in turn purchase goods and services from other businesses. These indirect purchases are called indirect effects, which continue until leakages from the region in the form of imports, wages, or profits to persons outside the region end the cycle. Finally, workers at the producing businesses spend their wages in the local economy and purchase additional goods and services. These purchases are referred to as induced effects. The total economic impact of an action is the sum of the direct, indirect, and induced effects. I-O models generate multipliers that can be applied to direct purchases to represent the total direct, indirect, and induced effect of an action to different sectors of the economy.

During the construction phase, the economic impacts are estimated based on the following assumptions about Project construction:

- 250 total full and part time construction jobs over the entire construction period, with a peak of 160 workers for a four month period;
- 37 full and part time local construction jobs (for workers from Kittitas County) including construction management;
- A total Project cost of approximately $200 million. The largest single cost for construction is the purchase of the wind turbine generators and towers, which would be purchased either from GE Wind Energy (Tehachapi, CA) or from a European wind turbine manufacturer.
- $2,462,000 in local spending on construction materials such as gravel and concrete;
- $341,000 in spending on food and lodging by non-local labor in Kittitas County.

The construction impacts are expected to occur over approximately a one-year period. The direct, indirect, and induced economic impacts during construction are shown in Table 3.12.2-1 for total income and jobs. Total income consists of personal income in the form of wages, profits and other income received by workers and business owners, plus income from other sources such as payments to land owners who lease land for Project facilities. Jobs are the number of full and part time jobs expected to result from the Project and from the increase in spending in other sectors of the economy. As shown, the construction phase of the Project is projected to result in $4.8 million in total income and 71 jobs in Kittitas County.

Table 3.12.2-1: Economic Impacts in Kittitas County During Project Construction (2002$)

Impact Type	**Total Income**	**Jobs**
Direct	$3,783,000	37
Indirect	$428,000	12
Induced	$580,000	23
Total	$4,791,000	71

Source: ECONorthwest, Economic Impacts of Wind Power in Kittitas County. For the Phoenix Economic Development Group. October 2002. Modified for the Wild Horse Wind Power Project by CH2M HILL, June 2003.

The precise levels of construction wages vis-à-vis existing wage levels in the area are not known, as these will be determined by the construction contractor and their subcontractors, based on prevailing labor market conditions at the time of construction. It is therefore reasonable to assume that Project construction wage levels will be consistent with existing wage levels in the area. Finally, due to the short term of the construction period (12 months or less), even if wages paid by the construction contractor for the Project were higher than existing wage levels in the area, it is very unlikely that this would have any impact on other local employers beyond the short duration of the peak Project construction period (i.e. 4 months).

Fiscal Impacts

Sales Tax:

By statute, an exemption from state sales tax exists under RCW 82.08.2567 for renewable energy generating facilities. The Applicant has received confirmation from the Washington Department of Revenue that purchases of wind turbine generators, foundations, substations, control buildings, and power lines will be exempt from state sales tax. However, all other construction-related purchases would be subject to sales tax, as would indirect purchases such as construction workers' food, lodging, and fuel expenditures. There would also be other fiscal benefits that Kittitas County would receive from the Project, such as increased license and permit fees, use taxes, and charges for services.

Property Tax:
The Project would result in a substantial increase in the property tax base of the County and local taxing districts where the Project is located. These taxing districts include Kittitas School District #403, Hospital District #1, and County Road District #1. The effects of this increase in tax base are discussed under Operations below, as property tax payments would not be due until after Project construction is completed.

3.12.2.2 Operation and Maintenance

Population and Housing
There will not be a significant increase in population or housing demands due to the small number of workers required for operations. The Project is expected to require 14 to 18 total workers during operations, and some of them (up to half) are expected to be hired among persons already residing in Kittitas County. It is anticipated that roughly half of the operations workforce would be experienced wind power technicians and professionals that would relocate to Kittitas County to operate the Project.

Employment and Income
During operations, it is estimated that 14-18 workers would be employed to operate and manage the Project. It is assumed that all of these operations workers would reside in Kittitas County, with roughly half of them relocating to the county from other areas. There would also be spending on materials and services that would be necessary to operate and maintain the Project (e.g. fuel, maintenance supplies, road maintenance services, weed control services, etc.) The estimated annual direct, indirect, and induced income and jobs created by the Project during operations are shown in Table 3.12.2-2. As shown, the Project is projected to result in an estimated $1.4 million per year in added income and 26-30 additional jobs in Kittitas County.

Table 3.12.2-2: Annual Economic Impacts in Kittitas County During Operations (2002$)

Impact Type	**Total Income**	**Jobs[a]**
Direct	$1,000,000	14-18
Indirect	$45,000	1
Induced	$360,000	11
Total	$1,405,000	26-30

[a]*Total may not add because of rounding.*
Source: ECONorthwest, Economic Impacts of Wind Power in Kittitas County. For the Phoenix Economic Development Group. October 2002. Modified for the Wild Horse Wind Power Project by CH2M HILL, June, 2003.

Fiscal Impacts
As described in Section 3.13, 'Public Services and Utilities/Recreation', the Project is not expected to result in any significant increases in demand for public services or public expenditures. The Project will, however, result in a substantial increase in the local property tax base and will be the largest taxpayer in Kittitas County.

Based on an estimated total Project cost of $200 million, the Applicant estimates that the Project will increase the total valuation of real property in Kittitas County by approximately 8%, from $2.5 billion to $2.7 billion. To put this figure in perspective, the 2003 total assessed value of the ten largest taxpayers in Kittitas County combined is approximately $140 million and the largest single taxpayer in Kittitas County is Puget Sound Energy, with an assessed value in 2003 of $32,343,143 (Kittitas County Assessor, Feb. 2003). Therefore, it is anticipated that the Project would be the largest single taxpayer in Kittitas County by a factor of six and would have an assessed value greater than that of all ten of the current largest taxpayers in the county combined. It is expected that the Project will result in both increased revenues for state schools and local public services in the area as well as reduced property tax levy rates for local taxpayers.

It is anticipated that Project valuation for tax assessment purposes will be conducted by the Kittitas County Assessor's office. There is little established precedent regarding valuation of wind farms for tax purposes in Washington. Because the Stateline Wind Energy Center, which is located in Walla Walla County, Washington and Umatilla County, Oregon, is an interstate project, it was assessed centrally by the state Department of Revenue. In that case, the entire value of the Project was treated as new construction and therefore was exempt from the limits of I-747 (described below), and resulted in substantial increases in tax revenues to local districts.

Applicant cannot project with certainty the precise amounts of increased revenues vs. decreased levy rates resulting from the Project because it depends on what portion of the Project is considered real vs. personal property by the Kittitas County Assessor and how much, if any, of the Project the Assessor defines as "new construction." The Kittitas County Assessor has not yet provided a firm indication of the expected allocation between real property and personal property for the Project.

Voters in Washington approved Initiative 747 in 2001. I-747 limits a taxing authority's total property tax revenue increases to one percent per year. There are exemptions for new construction and excess levies approved by the voters. If the assessed value in a district increases dramatically, levy rates would likely have to be decreased in order to meet the requirements of I-747. It is anticipated that this would be the case with the addition of the Project to the local property tax base, because the Project would represent an increase of much more than 1% in total assessed value for the local districts. Assuming the property tax levies were reduced, it would result in lower property taxes for other taxpayers in the County.

Benefits to taxpayers in Kittitas County are derived from the additional services provided by tax dollars generated by the Project, as well as by the reduction in levy rates that would likely be required by Initiative I-747. The largest beneficiaries of the added revenue from the Project would be local and state schools, county government, county roads, and other local services.

In addition, development of this Project would result in increasing the value of other properties because of the increase in wages and overall economic activity in Kittitas

County. The Phoenix Study estimated that this secondary effect would result in an additional $78,000 in property taxes annually in the county.

Income to Landowners

The Applicant plans to purchase the privately owned land needed for the Project itself. The Applicant has entered into long term (i.e. 30 year) leases with the Washington Department of Natural Resources (WDNR) for approximately 34 wind turbine sites. Applicant intends to enter into a similar long term lease with the Washington Department of Fish and Wildlife (WDFW) for approximately 9 wind turbine sites. The amount of rental income paid to WDNR and WDFW would depend on the total number and nameplate capacity of wind turbines installed, the actual energy production, and the actual energy sales price. The estimates provided here are based on the best available information and assumptions regarding energy production and energy sales price.

Rental payments for the 34 WDNR turbine sites are expected to generate an annual average of approximately $200,000. Based on current WDNR policy, approximately 75 percent of the rental income will be allocated to the Common School fund, while the remaining 25 percent will go to the WDNR management fund. Rental payments are subject to an additional 12.48% leasehold tax, which contributes money to local taxing districts as well as the general fund. Rental payments for the 9 WDFW turbine sites are expected to generate an annual average of approximately $56,000. The Applicant is not familiar with the details of WDFW's policy for allocation of rental or lease income, but it is assumed the fund would be used to support the protection and enhancement of wildlife habitat.

The PSE and/or BPA transmission feeder line(s) and the PSE interconnect substation would be installed on private land under easements from the property owners. Payments to property owners that lease the land for the PSE transmission feeder would generate approximately $120,000 over the life of the Project.

Property Values

Some individuals have expressed concerns that wind energy projects could have a negative effect on property values by detracting from the views experienced by other property owners. The Project is located in a very sparsely populated area that is zoned Forest and Range and Commercial Agriculture, and the primary land uses in the immediate area are grazing and publicly-owned lands. There are less than 20 residential structures within 3 miles of the Project boundaries, and many of these are seasonally occupied cabins. Thus the potential for property value impacts related to viewshed impacts appears to be quite limited. The potential impacts of the Project on views in the area are discussed in detail in Section 3.11, 'Visual Resources/Light and Glare'.

The 2002 Phoenix Study includes the results of interviews with tax assessors in counties throughout the U.S. that have wind energy projects in place, and includes the results of a literature review of academic journals into this matter. For comparison purposes, the study also reported on studies that have been done about the impacts of electric transmission lines on property values.

The assessor's survey covered 22 projects in 13 counties. Of those 13 counties, six had residential properties with views of a wind farm, six had no residential properties with views of a wind farm, and one reported that the wind project was too new to assess any property value impact. All six of the counties with residential views of wind projects reported that the turbines have not altered the value of those properties. Of the six counties with no residential views, five reported that there was no impact on property values, while a sixth (Kern County, California) reported that land parcels with turbines on them have increased in value in response to changing the land from a grazing zone to a "wind-energy" zone.

The results of the literature review found only one study that specifically addressed the impact of wind turbines on property values. The study investigated impacts to residential properties in Denmark. The results were based on a small sample of homes, and were not significant statistically.

Because of the paucity of available literature on potential property value impacts of wind energy projects, the Phoenix Study also reported on the published literature about the impact of transmission lines on property values. Unlike wind farms, which some people find attractive, transmission lines are almost universally perceived as unattractive. Thus, the impacts of transmission lines may give an indication of the maximum possible impact that could be experienced by a wind energy project if such a negative impact exists. The results of the literature about the impact of transmission lines on property values can be summarized that their effect on property values is at most about a 10 percent reduction in value, and those impacts are short-lived i.e., the effects diminish over time.

Recently, another study, funded by the US Department of Energy and conducted by the Renewable Energy Policy Project (REPP) entitled "The Effect of Wind Development on Local Property Values" (May 2003, Exhibit 19) investigated the impacts wind turbines have on property values. The REPP study represents the most comprehensive analysis of the issue of wind farms and property values conducted to date. This study focused on wind development projects that were completed after 1998 with installed capacity of over 10 MW. Of the 27 projects identified, 10 projects had sufficient data to be reviewed. A comparative analysis was conducted of sales data of properties within a five-mile radius ("view shed") of a wind turbine versus a larger comparable region prior to and after the development of the wind farm. The statistical analysis in the REPP study does not support the claim that wind development projects have an adverse impact on property values on properties within the view shed of a wind farm.

These findings and the nature of surrounding land uses indicate that the Project is very unlikely to result in a negative impact to property values.

3.12.2.3 Comparison of Impacts of Proposed Scenarios

It is estimated that the number of construction and operations employment opportunities associated with all the scenarios being considered will be approximately the same. The

only substantial difference in terms of fiscal and economic impacts among the proposed scenarios is the difference in total Project cost and the resulting impact on local property tax revenues. The difference in total Project costs among the proposed scenarios is largely a function of the difference in the total cost of the wind turbine generators, which is essentially linear with respect to total nameplate capacity (expressed in MW).

The analysis presented in the preceding sections is based on a total Project nameplate capacity of 204 MW. For the 312 MW scenario, the total Project cost would be roughly 65% higher. For the 158 MW scenario, it would be roughly 22% lower. It is assumed that these differences in total Project costs would translate into roughly linear increases or decreases in property tax revenues compared to the base case of a Project size of 204 MW.

3.12.3 Impacts of the No Action Alternative

Under the No Action Alternative, the Project would not be constructed or operated, and the environmental impacts described in this section would not occur. The No Action Alternative assumes that future development would comply with existing zoning requirements for the Project area, which is zoned Commercial Agriculture and Forest and Range. According to the County's zoning code, the Commercial Agriculture zone is dominated by farming, ranching, and rural lifestyles, and permitted uses include residential, green houses and agricultural practices. Permitted uses in the Forest and Range zone include logging, mining, quarrying, and agricultural practices, as well as residential uses (Kittitas County 1991). However, if the proposed Project is not constructed, it is likely that the region's need for power would be addressed by user-end energy efficiency and conservation measures, by existing power generation sources, or by the development of new renewable and non-renewable generation sources. Baseload demand would likely be filled through expansion of existing, or development of new, thermal generation such as gas-fired combustion turbine technology. Such development could occur at conducive locations throughout the state of Washington.

A baseload natural gas-fired combustion turbine would have to generate 67 average MW of energy to replace an equivalent amount of power generated by the Project (204 MW at 33% net capacity). (An average MW or "aMW" is the average amount of energy supplied over a specified period of time, in contrast to "MW," which indicates the maximum or peak output [capacity] that can be supplied for a short period.) See Section 2.3, 'Alternatives'.

3.12.4 Mitigation Measures

See Section 3.12.2, 'Impacts of the Proposed Action' for housing needs during construction. There appears to be an adequate supply of temporary housing available to accommodate non-local workers, therefore, no mitigation measures are proposed. The overall socioeconomic impact of the Project will be strongly positive for Kittitas County

in terms of increased property tax base and employment opportunities, thus no mitigation measures are planned for population, housing, and economics.

3.12.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.